

REMARKS

The official action dated October 23, 2006 has been carefully reviewed. Claims 9-19 are pending in this application. Applicants request reconsideration of this application in light of the remarks presented herein.

CLAIM REJECTIONS BASED ON § 103 - SKALA/LABINOV

In the official action dated June 1, 2006, claims 9, 12, 14, 17, and 19 were rejected by the Examiner under 35 U.S.C. § 103(a) as being obvious over U.S. Application Publication 2003/0134166 to Skala et al. ("Skala"), and in view of U.S. Application Publication 2002/0160238 to Labinov et al. ("Labinov").

A. The Rejections of Claims 9 and 14

Firstly, Applicants would like to note that in comparing the current official action with the previous one, *the Examiner has merely taken the references she relied upon in the previous office action, Labinov in view of Skala, and rearranged them such that Skala is the base reference and Labinov is used in support.* However, in the current official action, the Examiner notes that Applicants' previous arguments were persuasive, yet provides no indication as to why she believes proper motivation now exists that did not previously, even when relying upon the exact same references as before.

Secondly, based upon a thorough reading of both Skala and Labinov, it is clear that the references cannot be combined because the systems taught by each simply will not work with one another. The Examiner has attempted to implement a turbine disclosed in Labinov into the system disclosed in FIGS. 2A and 2D of Skala. Specifically, the Examiner would have a turbine disposed between the fuel processor 54 and the fuel cell 52 of Skala to receive output from the fuel processor

54 for rotation allowing the turbine to operate the compressor 64 for supplying air to the fuel processor 54. However, the Examiner has failed to reconcile her placement of the turbine with the particular control strategy disclosed in Skala for supplying air to the fuel processor 54.

Skala discloses that the valve 100 is controlled to vary the flow of a hydrogen-rich stream from the fuel processor 54 to the fuel cell stack 52. (Skala, para. 30.) Controlling the flow also controls the “back pressure in the fuel processor 54 and hence the flow of air into the fuel processor 54.” (*Id.*) This allows the fuel processor 54 to act as a “storage buffer” after the valve 100 is closed completely or partially. (*Id.*) Skala provides that “[s]torage can be facilitated by allowing reactants to continue to flow into the fuel processor after the valve is closed. . . . The stored pressure can be used to provide a nearly immediate flow of the hydrogen-rich gas to the fuel cell stack.” (Skala, para. 32.)(Emphasis added.) Skala further provides the following:

The present invention eliminates multiple feedback control loops that are required by conventional fuel processor controllers and *provides a rapidly varying hydrogen flow rate in response to changes in the demand for power.* The time delays produced in conventional systems with multiple control loops significantly adds to the transient response time of the conventional fuel cell system.

(Skala, para. 33.)(Emphasis added.)

Based upon these passages from Skala, it is apparent that disposing a turbine between the fuel processor 54 and fuel cell 52 for operating the compressor 64 simply will not work. As explicitly disclosed in Skala, the valve 100 may be open and closed throughout operation of the disclosed system. *A turbine disposed between the fuel processor 54 and the fuel cell 52 on either side of the valve 100 would not be continuously receiving a sufficient flow of processed fuel for rotation.* Thus, the compressor would not supply air to the fuel processor 54 when the valve 100 is closed as is specifically required in Skala. Furthermore, without supplying air to the fuel processor 54 while the valve 100 is closed, the fuel processor 54 would not receive the proper reactants to process and store fuel, which is required in Skala for rapid response of supplying processed fuel to

the fuel cell 52 when the valve 100 is opened. Therefore, implementing the turbine disclosed in Labinov will not allow the system disclosed in Skala to function in its intended manner.

Furthermore, it is well known in the art that turbochargers, such as that disclosed in Labinov, typically possess an inherent lag in operation during initial operation. Thus, a turbine disposed between the fuel processor 54 and the fuel cell 52, even when receiving proper flow from the fuel processor 54, would likely not be able to rapidly respond for purposes of supplying processed fuel to the fuel cell 52 as desired in Skala.

For the reasons set forth above, the Examiner's rejection of claims 9 and 14 are improper and should be withdrawn.

B. The Rejection of Claims 12

Claim 12 is dependent upon claim 9. As a result, the rejection of claim 12 should be withdrawn at least for the reasons discussed in regard to claim 9. In light of the overwhelming reasons for withdraw of the rejection of claim 9, any arguments specific to claim 12 are held in abeyance without prejudice or admission to any assertion made by the Examiner in order to expedite prosecution.

C. The Rejections of Claims 17 and 19

Claims 17 and 19 are dependent upon claim 14. As a result, the rejection of claims 17 and 19 should be withdrawn at least for the reasons discussed in regard to claim 14. In light of the overwhelming reasons for withdraw of the rejection of claim 14, any arguments specific to claims 17 and 19 are held in abeyance without prejudice or admission to any assertion made by the Examiner in order to expedite prosecution.

CLAIM REJECTIONS BASED ON § 103 - LABINOV/SKALA/SURMA

In the official action, the Examiner rejected claims 10 and 15 under 35 U.S.C. § 103(a) as being obvious over Skala in view of Labinov, as applied to claims 9 and 14, and further in view of U.S. Pat. No. 6,630,113 to Surma. Claims 10 and 15 are dependent upon claims 9 and 14, respectively. As a result, the rejections of claims 10 and 15 should be withdrawn for at least the reasons discussed in regard to claims 9 and 14. In light of the overwhelming reasons for withdraw of the rejections of claims 9 and 14, any arguments specific to claims 10 and 15 are held in abeyance without prejudice or admission to any assertion made by the Examiner in order to expedite prosecution.

CLAIM REJECTIONS BASED ON § 103 - LABINOV/SKALA/BROMBERG

In the official action, the Examiner rejected claims 11, 13, 16, and 18 under 35 U.S.C. § 103(a) as being obvious over Skala in view of Labinov, as applied to claims 9 and 14, and further in view of U.S. Application Publication 2002/0194835 to Bromberg et al.

A. The Rejections of Claims 11 and 13

Claims 11 and 13 are dependent upon claim 9. As a result, the rejections of claims 11 and 13 should be withdrawn for at least the reasons discussed in regard to claim 9. In light of the overwhelming reasons for withdraw of the rejection of claim 9, any arguments specific to claims 11 and 13 are held in abeyance without prejudice or admission to any assertion made by the Examiner in order to expedite prosecution.

B. The Rejections of Claims 16 and 18

Claims 16 and 18 are dependent upon claim 14. As a result, the rejections of claims 16 and 18 should be withdrawn for at least the reasons discussed in regard to claim 14. In light of the overwhelming reasons for withdraw of the rejection of claim 14, any arguments specific to claims 16 and 18 are held in abeyance without prejudice or admission to any assertion made by the Examiner in order to expedite prosecution.

CONCLUSION

In view of the foregoing remarks, it is submitted that this application is in condition for allowance. Action to that end is hereby solicited.

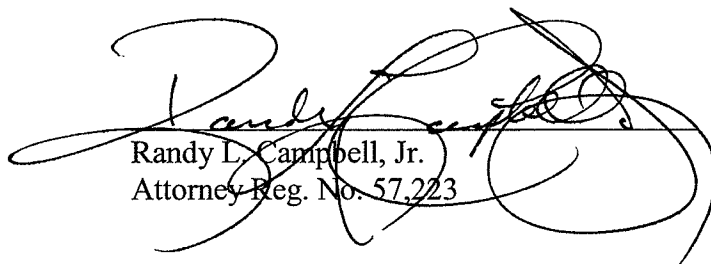
In the event that there are any questions related to this response in particular, or to the application in general, the undersigned would appreciate the opportunity to address those questions directly in a telephone interview to expedite the prosecution of this application for all concerned.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees be charged, or any overpayment in fees be credited, to the Account of Barnes & Thornburg LLP, Deposit Account No. 10-0435 with reference to file 9501-72760.

Respectfully submitted,

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